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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,206	09/24/2003	Mahesh R. Junnarkar	ITL.0995 (P16440)	2629
21906	7590	09/21/2005	EXAMINER	
TROP PRUNER & HU, PC 8554 KATY FREEWAY SUITE 100 HOUSTON, TX 77024			CHIEM, DINH D	
		ART UNIT	PAPER NUMBER	
			2883	

DATE MAILED: 09/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/669,206	JUNNARKAR ET AL.
	Examiner Erin D. Chiem	Art Unit 2883

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 07 July 2005.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-24 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-24 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) All b) Some \* c) None of:  
1. Certified copies of the priority documents have been received.  
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_

4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_

5) Notice of Informal Patent Application (PTO-152)  
6) Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, 9-16, 18-20, and 22-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Deacon (US Pre-grant Application 2002/0076149 A1). Deacon teaches a channel-switched cross-connect device comprising an arrayed waveguide grating comprising a support structure (Fig. 1; 120), an array of waveguides on one side of said support structure (112, 114, 122, 124), and at least two heaters positioned so as to provide a temperature gradient across said array of waveguides (150, 152). In paragraph [0036] Deacon teaches changing the temperature of the chip, wherein the arrayed-waveguides are formed upon, at different rate; thus providing the temperature gradient across the array of waveguides. The integrated optical chip 100 is a planar light wave circuit. In Fig. 1 element 102 is the bottom of the integrated optical chip 100, and in Fig. 2, the chip assembly is shown making contact with the cooler/heater (212, 214) at the bottom 102, thus meeting the limitation of forming the heaters on the opposite side of the planar light wave circuit. The heaters (212, 214) heat the entire chip 100, thus generally forms in the same configuration as the waveguides and aligned beneath the array of waveguides. Furthermore, Deacon teaches the heaters to be selectively actuatable [0086]. Regarding claim 24, there are two laser waveguide chips (112, 114) butt-coupled together and on chip waveguides

(122-124) being exemplary sub-set of the entire array and in Fig. 2 Deacon shows his invention requires only 2 heaters.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7, 8, 17, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deacon in view of Zah (US Patent 5,612,968) and MacPherson et al. (US Patent 6,096,566).

Deacon teaches an arrayed waveguide grating having an array of waveguides on a support structure and arranging a plurality of heaters to provide a temperature gradient across the array of waveguides wherein the heaters are selectively actuatable.

However, Deacon does not explicitly teach actuatable fuses actuate the heaters and the fuses are actuated by laser, or more simply put, the heaters are actuated by laser fuses.

MacPherson teaches an inter-conductive layer fuse for integrated circuits formed on a silicon substrate. MacPherson teaches in an embodiment of the invention is to utilize laser-configurable fuses wherein a laser beam blows selected fuses to sever the chosen electrical connections (col.2 lines 64 – col. 3. line 11). However, MacPherson lacks the teaching of the application used in optical devices. The Examiner would like to point out that the teachings of the device reads upon the broad method claims of 1-6, and 9.

Zah teaches a redundant multi-wavelength laser arrays wherein the optical waveguides (Fig. 2; 26), typically semiconductor waveguides on board the chip 20 (col. 4, line 24) wherein the selective wavelength is dependent on the connection and non-connection by burning a fuse.

Since Deacon, Zah, and MacPherson are all from the same field of endeavor, the purpose disclosed by Zah and MacPherson would have been recognized in the pertinent art of Deacon.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to recognize MacPherson's teaching of blowing laser fuses on semiconductor wafers and combine the with the teaching of Zah's wavelength selection by selectively connecting the transmission paths through the mean of burning or blowing a fuse and extrapolate the teachings to employ laser fuses to select or "actuate" the desire heater in a plurality of heaters. **The motivation** for employing laser fuses as a mean of actuation is desirable for laser's accuracy. The level of accuracy that laser can provide when selectively disconnect a fuse is highly desired in the art of micro-electronics especially when the entire circuitry is integrated on a chip such as the ones taught by Deacon, Zah, and MacPherson.

#### *Response to Arguments*

3. Applicant's arguments, see Remarks, filed July 7, 2005, with respect to claims 1-24 have been fully considered and are persuasive. The rejection of claims 24 has been withdrawn.

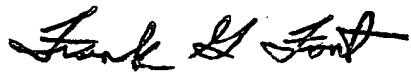
Applicant's arguments, see Remarks, filed July 7, 2005, with respect to the rejection(s) of claim(s) 1-24 under 35 USC 102(b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of the newly found prior art.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erin D. Chiem whose telephone number is (571) 272-3102. The examiner can normally be reached on Monday - Thursday 9AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on (571) 272-2415.. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Erin D Chiem  
Examiner  
Art Unit 2883

Frank G. Font  
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